# **Source Water Assessment Report**



### Public Water Supply: COTTONWOOD FALLS, CITY OF

# Assessment Areas Include: 971



Kansas Department of Health and Environment Bureau of Water Watershed Management Section 1000 SW Jackson St., Suite 420 Topeka, KS 66612–1367





Burns &McDonnell 9400 Ward Parkway Kansas City, MO 64114 Kansas Geological Survey University of Kansas 1930 Constant Ave. Lawrence, KS 66047

Reports were generated with the Automated Source Water Assessment Tool (ASWAT). Assessments were completed online using ASWAT by hundreds of state employees, public water supply staff, and technical assistant providers throughout the State of Kansas.

# **Table Of Contents**

Report Description	
Assessment Area 971	<u>1.0</u>
Executive Summary	<u>1.1</u>
Potential Sources	<u>1.2</u>
Added Sources	<u>1.3</u>
Potential Contaminants Summary	<u>1.4</u>
Potential Contaminants Listing	<u>1.5</u>
Protection Measures	<u>1.6</u>
Assessment Analysis	<u>1.7</u>
Site Comments	<u>1.8</u>
Added Site Comments	<u>1.9</u>
Analysis Question Comments	1.10

## **Report Description**

### **Detailed Explanation of Entire Report:**

The 1996 amendments to the Safe Drinking Water Act require each state to develop a Source Water Assessment Program (SWAP) and a Source Water Assessment (SWA) for each Public Water Supply (PWS) that treats and distributes raw source water. In Kansas there are 761 public water supplies that require SWAs. A SWA includes a delineation of the source water assessment area, an inventory of potential contaminant sources, and a susceptibility analysis.

A PWS can consist of one or more individual assessment areas that require different assessments. In general, an assessment area is delineated at a two-mile fixed radius for a groundwater well. A surface water intake assessment area is the upstream-drainage area (watershed), inside the state border. Additionally, an assessment area can consist of an individual well, group of wells, an individual surface water intake, or multiple surface water intakes.

After each assessment is completed a report is automatically generated using an Internet—based application called the Automated Source Water Assessment Tool (ASWAT). The individual assessment reports combine to form the entire SWA report for a PWS.

A map of each Assessment Area was also generated with ASWAT. However, for security reasons the maps are not included in this report. To obtain a copy of the map(s), please contact your local PWS.

All PWS reports will be available for viewing and downloading on KDHE's Watershed Management Section website(http://www.kdhe.state.ks.us/nps) in 2004.

## **COTTONWOOD FALLS, CITY OF Summary:**

AA	Туре	Diversion Id
971	River Alluvium	999, 001, 003

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003–04–17 08:01:27

#### **Executive Summary:**

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

# **Executive Summary**

Public Water Supply: COTTONWOOD FALLS, CITY OF

Assessment Area: 971

## **Susceptibility Likelihood Scores for Assessment Area**

	A	В	B1	B2	С	C*	D
Susceptibility Likelihood Score – SLS	40	45	55	67	44	39	47
SLS Range	Low	Low	Mid	Mid	Low	Low	Low

A – Microbiolgical

**B2** – Sedimentation

C\* – Pesticides

 $\boldsymbol{B}-Inorganic\ Compounds$ 

C – Synthetic Organic Compounds

**D** – Volatile Organic Compounds

**B1** – Eutrophication – Phosphorous

## **Susceptibility Likelihood Range**

SLS Range	
0-50	Low Susceptibility
51-80	<b>Moderate Susceptibility</b>
81–100	High Susceptibility

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003–04–17 08:01:27

#### **Potential Sources:**

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100–foot radius around a groundwater well and a 1000–foot radius around a surface water intake. Zone B is a 2000–foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2–mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

# **Potential Sources**

Public Water Supply: COTTONWOOD FALLS, CITY OF

Assessment Area: 971

Source No.	SIC Description	SIC ID	Zone
159739	General Farm, Primarily Crop	191	В
159514	Veterinary Services, Specialties	742	В
159854	Veterinary Services, Specialties	742	В
159963	Veterinary Services, Specialties	742	В
160002	Veterinary Services, Specialties	742	В
160111	Veterinary Services, Specialties	742	В
160015	Oil and Gas Field services	1389	В
160024	Oil and Gas Field services	1389	В
159095	Rock Quarry	1429	В
159495	Rock Quarry	1429	В
159496	Single–family Housing Construction	1521	В
159521	Single–family Housing Construction	1521	В
159913	Single–family Housing Construction	1521	В
160033	Single–family Housing Construction	1521	В
160140	Single–family Housing Construction	1521	В
160145	Single–family Housing Construction	1521	В
159929	Nonresidential Construction	1542	В
160000	Nonresidential Construction	1542	В

Source No.	SIC Description	SIC ID	Zone
160003	Nonresidential Construction	1542	В
160186	Nonresidential Construction	1542	В
159954	Newspapers Publishing and Printing	2711	В
160120	Newspapers Publishing and Printing	2711	В
159998	Commercial Printing NEC	2759	В
160028	Farm Machinery and Equipment	3523	В
160187	Farm Machinery and Equipment	3523	В
159501	Machinery, Except Electrical Manufacturing	3599	В
159865	Machinery, Except Electrical Manufacturing	3599	В
160042	Machinery, Except Electrical Manufacturing	3599	В
160121	Manufacturing Industries, nec	3999	В
159532	Farm Product Warehousing and Storage	4221	В
160022	Farm Product Warehousing and Storage	4221	В
160108	Farm Product Warehousing and Storage	4221	В
160162	Farm Product Warehousing and Storage	4221	В
160189	Farm Product Warehousing and Storage	4221	В
160010	Farm and Garden Machinery	5083	В
160016	Farm and Garden Machinery	5083	В
160037	Farm and Garden Machinery	5083	В
159899	Gasoline Service Station	5541	В

Source No.	SIC Description	SIC ID	Zone
160193	Gasoline Service Station	5541	В
159492	Sporting and Recreational Camps	7032	В
160006	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	В
160222	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	В
159090	Auto Truck Repair Service	7538	В
159942	Auto Truck Repair Service	7538	В
160007	Auto Truck Repair Service	7538	В
160214	Repair Services, Nec	7699	В
168825	Cattle Farm	211	С
168146	Single-family Housing Construction	1521	С
168303	Single-family Housing Construction	1521	С
168187	Nonresidential Construction	1542	С
168321	Nonresidential Construction	1542	С
158779	Meat Packing Plant Manufacturing	2011	С
160099	Meat Packing Plant Manufacturing	2011	С
168213	Meat Packing Plant Manufacturing	2011	С
168167	Prepared Feeds For Animals and Fowls	2048	С
168251	Newspapers Publishing and Printing	2711	С
168252	Newspapers Publishing and Printing	2711	С
168253	Newspapers Publishing and Printing	2711	С
168235	Commercial Printing NEC	2759	С

Source No.	SIC Description	SIC ID	Zone
168304	Fertilizers, Mixing Manufacturing	2875	С
168320	Plastics products Manufacturing	3089	С
168309	Farm Machinery and Equipment	3523	С
159743	Machinery, Except Electrical Manufacturing	3599	С
168823	Machinery, Except Electrical Manufacturing	3599	С
159040	Farm Product Warehousing and Storage	4221	С
159489	Farm Product Warehousing and Storage	4221	С
168173	Farm Product Warehousing and Storage	4221	С
168315	Farm Product Warehousing and Storage	4221	С
168816	Farm Product Warehousing and Storage	4221	С
160101	Farm and Garden Machinery	5083	С
168219	Farm and Garden Machinery	5083	С
158782	Gasoline Service Station	5541	С
159046	Gasoline Service Station	5541	С
168149	Gasoline Service Station	5541	С
168236	Gasoline Service Station	5541	С
168290	Gasoline Service Station	5541	С
159529	Sporting and Recreational Camps	7032	С
168221	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	С
159049	Auto Truck Repair Service	7538	С

Source No.	SIC Description	SIC ID	Zone
168216	Auto Truck Repair Service	7538	С
168824	Repair Services, Nec	7699	С
199591	Repair Services, Nec	7699	C

Source No.	Source Name	ID/Permit No.	Zone
2000023	Mcanulty, Mark Cynthia	A-NEHV-EA01	В
2000033	Ensz, Marvin	A-NEMN-FA01	В
2000095	Penner, Reno	A-NEMN-BA41	В
2000103	Dierks, Heinz	A-NEMR-MA01	В
2000114	Rogers, Kenneth W.	A-NEMN-BA73	В
2000130	Barlow, Scott	A-NEMR-MA02	В
2000176	Dirks, Brad	A-NEMN-MA06	В
2000291	Markley, Bill	A-NEMR-SA01	В
2000297	Regier Farms	A-NEMN-BA46	В
2000305	Stoney Brook Farms	A-NEMN-M013	В
2000360	Wilcox, Keith	A-NECS-M001	В
2000380	Siebert, John G.	A-NEMN-BA67	В
2000436	Hein, Edward	A-NEMN-BA25	В
2000442	Hett, John	A-NEMN-SA06	В
2000546	Suderman, Lyle	A-NEMN-S014	В

Source No.	Source Name	ID/Permit No.	Zone
2000592	Shields, Kenneth	A-NEMN-BA17	В
2000636	Gray, Fordyce W.	A-NEMN-BA81	В
2000642	Walnut Grove Angus	A-NEMN-BA11	В
2000669	Hiebert, James	A-NEMN-M014	В
2000737	Glahn, Steve (s M Farms)	A-NEMN-BA75	В
2000751	Unruh, Jerald D.	A-NEMN-BA54	В
2000772	Hett, Willard	A-NEMN-LA01	В
2000894	Meathook Ranch, Inc.	A-NEMN-B009	В
2001028	Goertzen, Steven Reimer, Rose	A-NEMN-BA37	В
2001054	Burhoop, Enno	A-NEMR-BA12	В
2001095	Sellers, Robert	A-NEMN-BA33	В
2001117	Rolling K Gelbvieh	A-NEMN-BA52	В
2001162	Thole, Jon W.	A-NEMN-BA57	В
2001198	Burhoop, Enno	A-NEMR-BA13	В
2001323	Eberhard, Terril	A-NEMN-CA03	В
2001388	Butcher, Butcher Boertman	A-NECS-BA04	В
2001486	Jost, Clinton	A-NEMR-BA11	В
2001548	Loewen, Charles	A-NEMN-BA24	В
2001581	Gillet, Douglas	A-NEMN-BA08	В
2001740	Suderman, Rodney	A-NEMN-S018	В
2001806	Unrau Farms	A-NEMN-BA31	В
2001824	Funk Farms	A-NEMN-S024	В
2001861	Carlson, Marcus	A-NEMN-BA02	В

Source No.	Source Name	ID/Permit No.	Zone
2001886	Jost, Clinton	A-NEMR-BD02	В
2001931	Doyle Creek Farms (busenitz, Clarence)	A-NEMN-B008	В
2001976	Peters, James	A-NEMN-BA01	В
2002103	Goertzen Farms	A-NEMN-S021	В
2002155	Unruh, Charles Lewis	A-NEMN-BA42	В
2002380	Crawford, Raymond	A-NECS-BA01	В
2002398	El Jay Inc.	A-NECS-BA08	В
2000032	Giger, Edwin	A-NECS-FA01	С
2000094	Teetzen, Kenneth E.	A-NEMN-BA29	С
2000097	Teetzen, Kenneth E.	A-NEMN-BA30	С
2000113	Hiebert, Ronald	A-NEMN-BA39	С
2000116	Banman, Richard Or Evelyn	A-NEMN-BA40	С
2000119	Pj Schmidt Sons	A-NEMN-MA10	С
2000178	Funk, Lavern	A-NEMN-BA82	С
2000237	Duerksen, Russ	A-NEMN-MA09	С
2000264	Kremeier, Leon	A-NEMN-MA03	С
2000386	Yoder, Robert	A-NEMN-MA01	С
2000394	Backhus, Bradley P.	A-NEMN-M022	С
2000425	Groening, Jerry	A-NEMN-BA35	С
2000441	Phillips, Martha	A-NEMN-B002	С
2000463	Schroeder, Allen	A-NEMN-SA01	С
2000473	Silver Valley Dairy Farm	A-NEMN-M016	С
2000478	Jost, Gerald Doyle	A-NEMN-MA12	С

Source No.	Source Name	ID/Permit No.	Zone
2000522	Suderman, Joel	A-NEMN-BA10	С
2000595	Nellans, Martin	A-NEMN-BA76	С
2000641	Jost, Victor L.	A-NEMN-BA14	С
2000728	Peterson Farms	A-NEMN-S004	С
2000739	Bevanjogene Dairy	A-NEMN-BA09	С
2000742	Rudolph, Danny	A-NEMN-SA05	С
2000769	Donahue Hayhook Ranch	A-NECS-BA06	С
2000771	Hett, Willard	A-NEMN-LA02	С
2000785	Donahue Hayhook Ranch	A-NECS-BA07	С
2000800	Kerbs Dairy	A-NEMN-M015	С
2000809	Klenda, Dennis L.	A-NEMN-S019	С
2000856	Konarik, Robert	A-NEMN-BA77	С
2000891	Funk, Dennis	A-NEMN-S011	С
2000895	Vogel, Randal B.	A-NEMN-BA65	С
2000929	Oborny, David J.	A-NEMN-BA66	С
2000932	Tajchman, Joe T.	A-NEMN-BA53	С
2000948	Nellans, Dale	A-NEMN-BA21	С
2000995	Upland Farms	A-NEMN-M025	С
2001011	Hillside Dairy Farm	A-NEMN-M008	С
2001022	Wildcat Cattle Co. – West	A-NEMN-BA87	С
2001030	Wildcat Cattle Co.– East	A-NEMN-BA86	С
2001060	Flaming, Dwight	A-LAMN-M002	С
2001073	Riggin, Jack	A-NEMR-BD03	С

Source No.	Source Name	ID/Permit No.	Zone
2001111	Loewen, Richard	A-NEMN-S015	С
2001121	Hajek, Martin John	A-NEMN-BA18	С
2001140	Dawson, Ken	A-NECS-CA02	С
2001152	Pritz, Maurice G.	A-NEMN-BA61	С
2001158	David, Frederick Scott	A-NEMN-BA62	С
2001178	Double W Farms	A-NEMN-BA28	С
2001181	Washmon, Greg	A-NEMN-BA38	С
2001196	Robinson Livestock	A-NEMN-BA64	С
2001210	Sterk, Kent M.	A-NEMN-M023	С
2001267	Bina, Robert J. Sons	A-NEMN-BD01	С
2001276	Schroeder, Rudolf	A-NEMN-BA43	С
2001351	Slocombe, Warren	A-NEMN-BA51	С
2001361	Hett, Clifford	A-NEMN-BA60	С
2001395	Hett, Glen R.	A-NEMN-BA50	С
2001455	Bina, Raymond	A-NEMN-BA71	С
2001467	Entz, Clifford	A-NEMN-BA13	С
2001471	Entz, Clifford	A-NEMN-BA12	С
2001494	Krispense, Steven Todd	A-NEMN-BA07	С
2001536	Suderman, Ron	A-NEMN-BA58	С
2001537	Bina, Laverne E.	A-NEMN-BA69	С
2001599	Shields, Fred	A-NEMN-BA15	С
2001608	Miesse, Scott	A-NEMN-BA34	С
2001612	Shields Farm	A-NEMN-BA16	С

Source No.	Source Name	ID/Permit No.	Zone
2001662	Bina, Jeff D.	A-NEMN-S020	С
2001675	Leonard Bina	A-NEMN-BA47	С
2001680	Peterson, Dan R.	A-NEMR-BA09	С
2001804	Wildcat Cattle Co Main	A-NEMN-B015	С
2001857	Carlson, Ronnie	A-NEMN-BA27	С
2001930	Hajek, Martin John	A-NEMN-BA56	С
2002045	Bina, Dean A.	A-NEMN-BA70	С
2002051	Carlson, Duane	A-NEMN-BA19	С
2002140	Nikkel, Kermit	A-NEMN-BA03	С
2002350	Koop, Kim	A-NEMN-B005	С
2002376	Kroupa, Martin, William Edmund	A-NEMN-B012	С
2002457	Carlson, Ronnie	A-NEMN-BA26	С
2002486	Hiebert, Merlin D.	A-NEMN-M024	С
2002516	Spring Valley Farm	A-NEMN-B001	С
2002558	Amstutz, Deryll	A-NEMN-H001	С
2002687	Chisholm Feeders	A-NEMN-C001	С
2002715	Diepenbrock, Gary	A-NEMN-C002	С

## **Regulated Hazardous Waste Potential Site Sources**

Did Not Contain Any Of These Potential Site Sources

## **Regulated Leaking Storage Tank Potential Site Sources**

Source No.	Source Name	ID/Permit No.	Zone
3000036	Marion Co Hwy Dept	00171	В

# **Regulated Leaking Storage Tank Potential Site Sources**

Source No.	Source Name	ID/Permit No.	Zone
3000108	Ireland Standard	01351	В
3000110	Shanklin Oil	01361	В
3000489	Usd 397, Centre High	05968	В
3000536	St Lukes Hospital	06269	В
3000648	Johnson's Gen Store	06742	В
3000750	Coastal Mart #9165	07222	В
3001041	Oursler Brothers Construction Co	14473	В
3001065	Helmer's Service Station	15372	В
3001221	Main Street Auto	20942	В
3001410	One Stop Convenience Store	25119	В
3001712	Farmers Grain Coop	26610	В
3001737	Kdot, Marion	26668	В
3001883	Farmers Grain Coop, Burns	27341	В
3002107	Amoco, Kahns	28608	В
3002449	Agri Producers	43055	В
3002569	Uprr, Peabody	80384	В
3002819	Boettcher Farm	81603	В
3000049	Coastal Mart #2524	00281	С
3000109	Corner Station	01360	С
3000111	Lost Springs Garage	01363	С
3000492	Usd 410, Hillsboro Hs	05981	С
3000529	Salem Hospital	06249	С
3000640	Quick Shop	06687	С

## **Regulated Leaking Storage Tank Potential Site Sources**

Source No.	Source Name	ID/Permit No.	Zone
3000740	Tampa Coop Assn	07185	С
3000878	Coop Grain Supply	08988	С
3000879	Coop Grain Supply	08989	С
3000943	Hillsboro Ford Mercury	11258	С
3001003	Coop Grain Supply, Hillsboro	13026	С
3001018	Dean Schroeder Motor	13515	С
3001102	Foth Service	16441	С
3001205	Stovall Oil Company	20398	С
3001262	Alvarez, Joe J.	23160	С
3001337	Janzen Farm Service	23812	С
3001572	Prime Time #124	25962	С
3001994	Smitty's Service	27939	С
3002229	Hillsboro Airport	29237	С
3002237	Strait Ranch	29276	С
3002329	Unruh Catering	29690	С
3002459	Hillsboro Water Treatment Plt	70009	С

## **Regulated Identified Contaminated Potential Site Sources**

Source No.	Source Name	ID/Permit No.	Zone
7000152	GREELEY GAS GATHERING – MERCURY	C200970125	В
7000775	LINCOLNVILLE GRAIN ELEVATOR	C505700216	В

## **Regulated Identified Contaminated Potential Site Sources**

Source No.	Source Name	ID/Permit No.	Zone
7000778	FARMERS GRAIN COOPERATIVE	C505770935	В
7000151	ROBERTS, H L FISH POND	C200900024	С
7000774	HILLSBORO INDUSTRIES, INC.	C505700021	С
7000777	CANADA USDA SITE	C505770601	С
7000779	MORRIS PROPERTY	C505771474	С

## **Regulated Solid Waste Potential Site Sources**

Source No.	Source Name	ID/Permit No.	Zone
5000141	Marion County	0158-S	В
5000643	City of Hillsboro	0632-S	В
5000766	Marion County	0744-S	В
5000776	Marion County HHW	0751-S	В

## **Regulated Waste Water Potential Site Sources**

Source No.	Source Name	ID/Permit No.	Zone
6000463	WORLD IMPACT TRAINING CENTER	C-NE26-NO02	В
6000832	HARSHMAN CONST. – STARKEY QUARRY	I-NE22-PO01	В
6000842	MARTIN MARIETTA (SUNFLOWER QUARRY #382)	I-NE26-PO01	В
6000843	HARSHMAN CONST. – FLORENCE QUARRY	I-NE26-PO02	В

## **Regulated Waste Water Potential Site Sources**

Source No.	Source Name	ID/Permit No.	Zone
6000863	MARTIN MARIETTA (HETT/N. MARION QUARRY)	I-NE45-PO02	В
6000869	UNRUH CATERING SERVICE	I-NE56-PO01	В
6001604	ELMDALE MWWF	M-NE22-NO01	В
6001610	FLORENCE MWTP	M-NE26-NO01	В
6001618	HILLSBORO MWTP	M-NE35-OO01	В
6001619	HILLSBORO MWTP	M-NE35-OO01	В
6001629	LINCOLNVILLE	M-NE43-OO01	В
6001632	MARION MWTP	M-NE45-OO01	В
6001646	PEABODY MWTP	M-NE56-OO01	В
6001647	PEABODY MWTP	M-NE56-OO01	В
6001661	STRONG CITY MWTF	M-NE63-OO01	В
6001742	USD #397 CENTRE HIGH SCHOOL	M-SH23-NO01	В
6000196	MARTIN MARIETTA (SOUTH MARION QUARRY)	I-NE45-PO01	С
6000875	BURDICK MEAT MARKET LOCKER	I-NE71-NB01	С
6001630	MARION COUNTY #1	M-NE45-ND01	С
6001631	MARION COUNTY #3	M-NE45-NO07	С
6001662	TAMPA MWTP	M-NE64-NO01	С
6002021	HILLSBORO INDUSTRIES	P-NE35-OO01	С

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003-04-17 08:01:27

#### **Added Sources:**

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

## **Added Sources**

Public Water Supply: COTTONWOOD FALLS, CITY OF

Assessment Area: 971

#### **Added Potential Site Sources**

Source No.	Source Name	SIC ID	Zone
9000880	Grove of trees	0	В
9000557	Ag. Center Pesticide and Fertilizer Application Servic	10038	В
9000879	Fuel, grain and feed and hay storage	10038	В
9000555	lagoons	10075	В
9000910	non-discharging lagoons	10075	В
9000183	cattle and horse pasture	10080	В
9000556	pastureland with cattle	10080	В
9000878	pastureland	10087	В
9000911	cropland	111	В
9000184	dryland cropland	115	В
9000554	dryland cropland	116	В
9000553	Natural Gas pipeline	4600	В
9000186	Fuel, Grain, Fertilizer storage	10026	С
9000185	abandoned water well	10028	С

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003–04–17 08:01:27

#### **Potential Contaminants Summary:**

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number or sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

# **Potential Contaminants Summary**

Public Water Supply: COTTONWOOD FALLS, CITY OF

Assessment Area: 971

# Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological   Sedimentation		Pesticides	IOC's	SOC's	VOC's	E – P	
18	19	3	61	17	42	11	

A – Microbiolgical

**B2** – Sedimentation

C\* - Pesticides

**B** – Inorganic Compounds

C – Synthetic Organic Compounds

**D** – Volatile Organic Compounds

**B1** – Eutrophication – Phosphorous

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003–04–17 08:01:27

#### **Potential Contaminants Listing:**

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiolgical B – Inorganic Compounds
 B2 – Sedimentation B\* – Nitrates
 B1 – Eutrophication – Phosphorous
 C – Synthetic Organic Compounds

**C\*** – Pesticides **D** – Volatile Organic Compounds

# **Potential Contaminants Listing**

Public Water Supply: COTTONWOOD FALLS, CITY OF

Assessment Area: 971

# **Unregulated Identified Site Sources and associated Potential Contaminant Category**

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	В
"	"	"	D
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	A
"	"	"	В
"	"	"	B1
"	"	п	B2
"	"	п	B*
"	"	п	C*
2875	Fertilizers, Mixing Manufacturing	Nitrogen, phosphorous	В
"	"	"	B*
5541	Gasoline Service Station	Inorganics, VOCs	В
"	"	"	D
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	В
"	"	"	D
3999	Manufacturing Industries, nec	inorganics, VOCs	В
"	"	"	D
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A

# **Unregulated Identified Site Sources and associated Potential Contaminant Category.**

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	B*
1542	Nonresidential Construction	Sedimentation	B2
1389	Oil and Gas Field services	Oil, Salt Water	В
"	"	"	С
3089	Plastics products Manufacturing	inorganics, VOCs	В
"	п	"	D
1429	Rock Quarry	Sedimentation	B2
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	С
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	В
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	В
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	В
"	"	"	С
"	"	"	D

# **Unregulated Identified Site Sources and associated Potential Contaminant Category.**

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
3523	Farm Machinery and Equipment	inorganics	В
"	"	"	D
4221	Farm Product Warehousing and Storage	TSS, VOCs	В
"	"	"	D
5083	Farm and Garden Machinery	inorganics	В
191	General Farm, Primarily Crop	fertilizers, Pesticides	В
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	В
"	"	"	С
"	"	"	D
2048	Prepared Feeds For Animals and Fowls	Sanitary, Nitrates, phosphorous and pesticides	A
"	"	"	В
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*

# **Unregulated Identified Site Sources and associated Potential Contaminant Category.**

SIC ID	SIC Source	Potential Contaminant	Contaminant Category			
7699	Repair Services, Nec	inorganics	В			

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003–04–17 08:01:27

#### **Protection Measures:**

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

# **Protection Measures**

Public Water Supply:  ${\bf COTTONWOOD\ FALLS,\ CITY\ OF}$ 

Assessment Area: 971

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
211	Cattle Farm	Sanitary, Fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and sedimentation keep cattle out of these areas.  Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and keep cattle out of these areas.  Proper Waste Management		KDHE– Livestock Waste Management Section, KAR 28–16, KDA, County Soil Conservation District, NRCS
2875	Fertilizers, Mixing Manufacturing	Nitrogen, phosphorous	Minimize contact of product with water. Contain and treat process wastewater Protect product from contact with water.	40 CFR 418 and State or federal Storm water pollution prevention regulations
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
Manufacturing Industries, nec		inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations

SIC	SIC Source	SIC Source Contaminant Water Quality Protection Source Measure		Regulatory Authority
2011	Meat Packing Plant Manufacturing	idential Sedimentation Erosion and Sediment Con Gas Field Oil Salt Water Proper management of		40CFR 432 and State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction			KAR 28–16, KDHE
1389	Oil and Gas Field services			KAR 28–41, 45, 40 CFR 435
3089	Plastics products Manufacturing	inorganics, VOCs	Pre-treat wastewater prior to discharge. Minimize outdoor storage and control storm water runoff.	40 CFR 463 and State or federal Storm water pollution prevention regulations
1429	Rock Quarry	Sedimentation	Erosion and Sediment Control	KAR 28–16
Single–family Housing Construction		Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28–48, KDHE, KDEM

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7032	Sporting and Recreational Camps	sanitary, fertilizers, pesticides	Discharge to POTW. Minimize use of lawn chemicals	KAR 28–5
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	pholstery Repair Shops Inorganics, VOCs maintain		NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
2759	Commercial Printing NEC	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
3523	Farm Machinery and Equipment	inorganics	Discharge to POTW	State or federal Storm water pollution prevention regulations
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
191	General Farm, Primarily Crop	fertilizers, Pesticides	Maintain good erosion control practices and minimize the use of chemicals	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
2048	Prepared Feeds For Animals and Fowls Sanitary, Nitrates, phosphorous and minimize contact with storn		minimize contact with storm water. Collect and treat process	40 CFR 412 and State or federal Storm water pollution prevention regulations
7699	Repair Services, Nec	inorganics	Discharge to POTW	NA

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003–04–17 08:01:27

#### **Assessment Analysis:**

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

# **Assessment Analysis**

Public Water Supply: COTTONWOOD FALLS, CITY OF

Assessment Area: 971

### **Surface Water Multiple Wells Analysis**

**A** – Microbiolgical **B** – Inorganic Compounds

**B1** – Eutrophication – Phosphorous

**B2** – Sedimentation **C** – Synthetic Organic Compounds

**C\*** – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	В	<b>B1</b>	В2	C	<b>C</b> *	D
1	Is any intake located at a treatment plant?	No	1	1	0	0	1	1	1
2	Is there an open channel conveyance from any of the intakes to a treatment plant?	No	0	0	0	0	0	0	0
3	Does a PWS own or control all coneyance right-of-ways?	No	1	1	0	0	1	1	1
4	Does a PWS own or control all areas within 1/4 mile of intake?	Yes	0	0	0	0	0	0	0
5	Are all areas within 1/4 mile of intakes entirely native grass?	Yes	0	0	0	0	0	0	0
6	Is transportation infrastucture in close proximity to intake?	No	0	0	0	0	0	0	0
7	Are there water quality protection plans in use for each site?	Yes	0	0	0	0	0	0	0
8	Are any commercial, industrial, or urban areas present?	No	0	0	0	0	0	0	0
9	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0	0
10	Is riparian area vegetated?	Yes	0	0	0	0	0	0	0
11	Has riparian area been farmed up to the stream/riverbank?	No	0	0	0	0	0	0	0
12	Is there a lack of native grass or trees?	No	0	0	0	0	0	1	0
13	Is livestock use present in any of the riparian areas?	No	0	0	0	0	0	0	0
14	Are any confined livestock production sites in riparian area?	No	0	0	0	0	0	0	0
15	Is each confinement area registered with KDHE?	Yes	0	0	0	0	0	0	0
16	Are any row crops (corn, milo, soybeans) present?	Yes	0	0	1	1	0	2	0
17	Are water quality protection plans in use for each cropland?	No	0	0	1	1	0	2	1

No.	Question	Response	A	В	<b>B1</b>	В2	C	<b>C</b> *	D
18	Are any orchards present?	No	0	0	0	0	0	0	0
19	Are water quality protection plans in use for each orchard?	Yes	0	0	0	0	0	0	0
20	Is the intake a river intake?	Yes	1	1	0	1	1	1	1
21	Is the intake at a city owned lake?	No	1	1	1	1	1	1	1
22	Is there water quality monitoring conducted at all the rivers and/or lakes?	Yes	0	0	0	0	0	0	0
23	Is TMDL needed for the river or lake?	Yes	1	1	1	1	1	1	1
24	Are TMDL pollutants of concern reported by monitoring?	Yes	0	0	0	0	0	0	0
25	Are any point source discharges within 16 miles upstream of any intake?	Yes	1	1	1	1	1	0	1
26	Is pretreatment required at any point sources?	Yes	1	1	1	1	1	0	1
27	Are all riparian buffers vegetated?	Yes	0	0	0	0	0	0	0
28	Are vegetated riparian buffers and a water quality protection plan in place?	No	1	1	1	1	0	1	0
29	Is there urbanized land within any of the riparian buffers?	No	0	0	0	0	0	0	0
30	Is a NPDES stormwater permit required for the urbanized areas?	No	1	1	1	1	1	1	1
31	Are voluntary water quality protection plans in place for each urbanized area?	Yes	0	0	0	0	0	0	0
32	Is there industrial land use within any of the riparian buffers?	No	0	0	0	0	0	0	0
33	Is a NPDES stormwater permit required for the industrial areas?	No	1	1	1	1	1	1	1
34	Are voluntary water quality protection plans in place for each industrial area?	Yes	0	0	0	0	0	0	0
35	Is there any small grain (wheat, oats, barley) production?	Yes	0	0	1	1	0	1	0
36	Are water quality protection plans in use for each grain production?	No	0	0	1	1	0	1	0
37	Are there unsewered developments (contentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	0	0	0	0	0
38	Is a general watershed water quality protection plan in use?	No	1	1	1	1	1	1	1
39	Are any point source discharges within 16 miles upstream of intake?	Yes	0	0	0	0	0	0	0
40	Is pretreatment required at any of the point sources?	Yes	1	1	1	1	1	0	1

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003-04-17 08:01:27

#### **Site Comments:**

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

## **Site Comments**

Public Water Supply: COTTONWOOD FALLS, CITY OF

Assessment Area: 971

## **Comments for Unregulated Sites**

Did Not Receive Any Comments

### **Comments for Regulated Confined Animal Feeding Operations Sites**

Potential Contaminant Site Name	Site No.	Site Comments	Author	
Robinson Livestock	///////////////////////////////////////	1 2	Nicole Fisher	

## **Comments for Regulated Hazardous Waste Sites**

Did Not Receive Any Comments

## **Comments for Regulated Leaking Storage Tank Sites**

Potential Contaminant Site Name	Site No.	Site Comments	Author
Ireland Standard		$\epsilon$	Nicole Fisher

## **Comments for Regulated Leaking Storage Tank Sites**

Potential Contaminant Site Name	Site No.	Site Comments	Author
Johnson's Gen Store	3000648	The site is currently being monitored from the diesel leak in 1993. The fuel saturated soils were removed and a well was installed downgradient to monitor the groundwater.	Nicole Fisher
One Stop Convenience Store	3001410	The site is closed from a 1998 gas and diesel spill.  No groundwater contamination was suspected.	Nicole Fisher
Shanklin Oil	The site is closed from a gasoline leak in contamination was detected in the ground high levels of gasoline were detected at a		Nicole Fisher

## **Comments for Regulated Identified Contaminated Sites**

Potential Contaminant Site Name	Site No.	Site Comments	Author
FARMERS GRAIN COOPERATIVE	7000778	The soil is contaminated with nitrates from a local agri–chemical company. New storage confinement systems have been built to avoid further contamination. For information contact Tom Jones (785) 296–6380	Nicole Fisher
GREELEY GAS GATHERING – MERCURY	7000152	The soil at the site was contaminated with mercury. For more information please contact Stephanie Schauer at (785) 291–3066	Nicole Fisher
ROBERTS, H L FISH POND	7000151	Diesel spilled onto the soil and migrated to a nearby fish pond. Rechecks of the water showed no contamination still present and straw was layed down in ditches to absorb the diesel.	Nicole Fisher

## **Comments for Regulated Solid Waste Sites**

Did Not Receive Any Comments

## **Comments for Regulated Waste Water Sites**

Potential Contaminant Site Name	Site No.	Site Comments	Author
ELMDALE MWWF	6001604	This facility uses non-discharging lagoons	Nicole Fisher

# **Comments for Regulated Waste Water Sites**

Potential Contaminant Site Name	Site No.	Site Comments	Author
HARSHMAN CONST. – FLORENCE QUARRY	6000843	This industrial waste water treatment facility doesn't frequently discharge. It has had elevated levels of total suspended solids possibly due to the construction of a new ditch.	Nicole Fisher
MARTIN MARIETTA (SUNFLOWER QUARRY #382)	6000842	This industrial waste water treatment facility doesn't frequently discharge. Upon discharge the treated water flows into an unnamed tributary into the Cottonwood River into the Neosho River.	Nicole Fisher
STRONG CITY MWTF	6001661	This mechanical water treatment plant frequently discharges water into the Cottonwood River by the Fox Creek.	

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003–04–17 08:01:27

#### **Added Site Comments:**

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

# **Added Site Comments**

Public Water Supply:  ${\bf COTTONWOOD\ FALLS,\ CITY\ OF}$ 

Assessment Area: 971

#### **Comments for Added Contaminant Sites**

Added Contaminant Site Name	Site No.	Site Comments	Author
Ag. Center Pesticide and Fertilizer Application Servic	9000557	This information was obtained from the Wellhead Protection Plan.	Nicole Fisher
Fuel, Grain, Fertilizer storage	9000186	This information was obtained from the Wellhead Protection Plan.	Nicole Fisher
Fuel, grain and feed and hay storage	9000879	This site could contaminate the public water supply.	Nicole Fisher
Grove of trees	9000880	This is an important buffer to prevent contamination into the public water supply.	Nicole Fisher
Natural Gas pipeline	9000553	This information was obtained from the Wellhead Protection Plan.	Nicole Fisher
abandoned water well	9000185	This information was obtained from the Wellhead Protection Plan.	Nicole Fisher
cattle and horse pasture	9000183	This information was obtained from the Wellhead Protection Plan.	Nicole Fisher
cropland	9000911	This site is a potential source of contamination into the public water supply.	Nicole Fisher
dryland cropland	9000184	This information was obtained from the Wellhead Protection Plan.	Nicole Fisher
dryland cropland	9000554	This information was obtained from the Wellhead Protection Plan.	Nicole Fisher

## **Comments for Added Contaminant Sites**

Added Contaminant Site Name	Site No.	Site Comments	Author
lagoons	9000555	This information was obtained from the Wellhead Protection Plan.	Nicole Fisher
non-discharging lagoons	9000910	This site is a potential source of contamination into the public water supply.	Nicole Fisher
pastureland	9000878	This site could contaminate the public water supply.	Nicole Fisher
pastureland with cattle	9000556	This information was obtained from the Wellhead Protection Plan.	Nicole Fisher

Assessment Area: 971

Diversion Id's: 999, 001, 003
Status: Accepted

Submit Date: 2003-04-17 08:01:27

#### **Analysis Question Comments:**

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

# **Analysis Question Comments**

Public Water Supply: COTTONWOOD FALLS, CITY OF

Assessment Area: 971

## **Comments for Analysis Questions**

Analysis Question	Question Comments	Author	
Did Not Receive Any Comments			